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THE LIVE-STOCK INDUSTRY IN ARGENTINA

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Argentina is principally an agricultural and stock-raising country and ranks among the leading countries of the world in the production of grain, cattle, and sheep. The grain and the principal stock-raising sections, comprising the provinces (states) of Buenos Aires, Cordoba, and Santa Fe, resemble the level fertile corn and alfalfa regions of the States of Kansas, Nebraska, and Colorado. The climate, however, is milder, resembling that of our Southern States. In the eastern part of the country there is plenty of rainfall to produce satisfactory crops of corn and potatoes when modern methods of planting and cultivation are used, but if imaginary lines drawn through the central part of the province of Buenos Aires are pushed southward and westward. they will pass over an area where the rainfall diminishes rapidly.

An Ideal Country for Live Stock

The mild climate, fertile soil, and wide stretches of alfalfa, which remains green and is satisfactorily grazed throughout the year, make it almost an ideal country in which to produce live stock of all kinds. In addition to corn and alfalfa, heavy yields of wheat, oats, flax and barley are harvested annually, all of which help to make Argentina one of the greatest grain-exporting countries in the world.

The live-stock development in the past has been largely along the line of cattle and sheep. The horse industry developed with the breaking up of the fields for grain production, and during the past few years the swine and dairy industries have been developing rapidly.

Beef Cattle

The Shorthorn breed for many years has been the most popular, although lively interest recently is being manifested in the Hereford, Aberdeen Angus, and Polled Shorthorn breeds. The type generally seen is slightly longer in body, legs, and neck, and does not have the smoothness of the more compact

type of this country. This type, no doubt, is the result of an attempt to maintain the size of the range steers in Argentina. In the United States the necessity for making rapid and economical gains in the feed lot has caused the compact, short-legged, smooth, early maturing type of animal to predominate.

As one travels from one breeder's ranch to another, because many of the ranches are 5,000, 10,000, and 15,000 acres in size, one sees large herds of excellent breeding cows with straight-lined, wide-backed calves by their sides. Some are purebred herds, but the larger percentage of them are grade cows of superior individuality. Purebred bulls of good type are allowed to run with them. Steers of different ages in the adjoining pastures, growing fat on the green alfalfa, show the splendid results of the crossing of purebred bulls on high-grade cows.

A visit to the principal stockyard market which is located in the city of Buenos Aires also emphasized the value of the grading up practices which have been in progress for many years in Argentina. The type, size, and finish of the steers seen were strikingly uniform and practically all carried the Shorthorn markings. At this market cattle are sold by the head and not weighed. They are also auctioned off, instead of being sold as they are in this country, at the big markets. In August and September, 1920, grass fat steers were selling for 7 cents per pound.

The yardage charge at this market is about 45 cents per head for cattle, 20 cents for hogs and $1\frac{1}{2}$ cents for sheep. In addition the seller allows the buyers 15 cents per head on cattle and 45 cents per head on hogs to reimburse him for possible loss on account of tuberculosis or other diseases, bruises, etc. No allowance is made for sheep. The commission for selling is 3 per cent of the gross sales.

The demand for purebred cattle in Argentina is limited, but good prices are being paid for well-fitted animals of the type and breeding desired. It should always be kept in mind that the best in this country is the kind that is preferred by breeders in Argentina, and mediocre half fat animals are not wanted at any price.

The rate of exchange, tariff and outbreak of rinderpest, a fatal and contagious disease in Brazil have caused trade conditions between the United States and Argentina to become unsettled temporarily, but it is believed that when they again become normal there will be considerable demand for breeding cattle of our leading breeds, as well as for hogs, sheep, and horses.

Sheep Raising

Sheep raising ranks next to cattle in importance in Argentina. According to the 1918 estimates of the Argentine Department of Agriculture there were 44,855,000 sheep in that country. Of that number 42.5 per cent, or 19,051,462, were in the province (state) of Buenos Aires.

In this district sheep are raised entirely in the open and allowed to graze in pastures with cattle and horses. The fields range in size from 250 acres to 1,800 acres. Water is generally provided by windmills often located at the corners of four pastures. The land is usually flat and the soil black. In most cases it produces excellent grass. The water is good and found at a depth of from 4 to 30 feet.

The rainfall is not sufficient to always insure a profitable grain crop, therefore grain production is not practiced extensively. On account of the present high rents for land the tendency of the live-stock men is to devote more time to the breeding of cattle rather than sheep. In sections of abundant grass high grade cattle are preferred because of the larger profits; therefore the higher price of beef and low price of wool, if they continue, will cause the interest in sheep breeding to diminish. It is also understood that sheep destroy the stand of alfalfa more quickly and require more attention than cattle. In certain districts where the grass is plentiful dairying also has a tendency to replace the sheep industry, and the rate at which this elimination will be accomplished will depend on the future price of wool and mutton as compared with the products of the dairy.

The workmen employed in the care of sheep are generally Argentinians with a small percentage of the men from southern Spain.

A flock of sheep generally consists of from 500 to 1,000 head. However, some breeders are subdividing their farms and reducing the size of their flocks in order to give better care.

In the southern part of the province of Buenos Aires the Lincoln is the breed that seems to be best adapted to the climatic conditions and gives the largest profits, both from the standpoint of quantity of meat and weight of fleece per head. For this reason few people are changing to other breeds. Some grade Merinos were seen, however, in the fields and seemed to be doing well.

We were informed that 25 years ago the sheep were mostly Merinos. Special attention was given to wool production but little or no attention

to mutton. The breeders at that time began exporting sheep on foot but with the installation of packing houses came higher prices for mutton. This caused greater demand for mutton type sheep and both the Merinos and the native sheep were then crossed with Lincoln rams in order to get a more mutton type animal. Together with an increased production of meat was obtained a great increase in the weight of the fleece, which was very difficult to obtain with the Merino and native sheep of the country. This was continued until at the present time the sheep are very high grade Lincolns. In this way a heavy, mutton type sheep with a heavy, coarse fleece has been produced. Although this coarse wool at certain periods is low in price the difference in price between Lincoln and grade Merino is claimed to be largely compensated for by the difference in weight of the fleece, and, as a result it will be very difficult to introduce other breeds even if their wool is of greater value.

Every year a considerable number of purebred sheep are imported from England and other countries.

There are also many ranch owners who have large purebred flocks. Ordinarily high class rams sell well, but during the fall of 1920 they were slow sale. Some men thought it was due to the low price of wool.

In the warmer regions as in the north and west provinces Lincolns do not develop so well, the fleece is shorter and coarser, does not have as good color or luster as that of the southern regions. It is generally considered that this difference is due to the climate and quality of pasture.

Causes of Loss in the Flocks

The mortality caused by the winter and the intemperate climate does not exceed 5 per cent in normal years.

The diseases are foot and mouth disease, stomach worms, and scab. Stomach worms are not bad except in wet years, when an abundance of grass is produced. Scab is controlled by dipping three consecutive times 15 to 20 days apart. It is usually done immediately after shearing. This is followed by special applications by hand if there are spots of scab still visible. Also about a month before lambing begins they are given another bath followed by hand treatment. Dipping after shearing is always beneficial, but if it is done in winter there is danger of pneumonia.

There has always been a tendency in this region to specialize in the production of mutton, because, in normal times, it gives a higher profit

than the wool. The prices of wool were so high, however, during the war that the profit from it was greater than that from the meat. At the present time the prices of coarse wool are so low that the breeders will undoubtedly find greater profit in the production of meat, and will prefer to increase production along this line. Some men were talking of using Merino rams to improve the quality of the wool. Just how extensively this will be done is uncertain.

The average capacity of the land in this region is two sheep and one horse or cow for every five acres. Most of this region supports the three classes of live stock, but there are certain sections with cattle and horses only.

Live stock graze all the year on natural pasture. It is understood that during a very hard winter small amounts of feed in the form of oats or alfalfa are provided for a short period, but feeding is rather unusual and breeders consider it extra expense, therefore feed as little as possible.

On the better farms a man and his family are employed who live in a house some distance from the main buildings and who have the exclusive care of 1,000 to 1,500 sheep. These men are called "puesteros".

The herders and men for general work on a ranch received until 1915 \$12 to \$14 per month with food and lodging, the salary and expenses representing an equal amount. The puesteros who, with their families, watch sheep and have charge of a flock, received during the same period \$16 to \$20 per month and in addition a small interest in the lambs during the year which would amount to another \$7 a month. In some cases the owner of the farm provides the food for the puestero and his family. In other cases he provides only the meat. Since 1915 wages have increased 30 to 40 per cent and expenses for food and clothing of workmen about 80 per cent.

Sheep shearing covers a period of several weeks. Approximately 80 per cent of it is done by machine. Many of the landowners have shearing machines installed in their sheds, but there are also many outfits which shear on contract.

The average annual cost per head of sheep:

Provincial tax on production-----	\$.01 2/3
Cost of shepherd-----	.33 1/3
Cost of remedies for scab-----	.16 2/3
Rent of the land-----	1.00
Shearing-----	.06 2/3
Total-----	\$1.58 1/3

When the sheep are ready for market they are driven to the station and loaded on stock cars that go direct to the market, very much the same as in the United States. Expenses per animal for transportation and sale:

Driving to the station-----	\$.01 2/3
Railway transportation (270 miles)-----	.33 1/3
Expenses loading, unloading & insurance--	.01 2/3
Taxes for entering the market-----	.04
Commission to sellers(3 per cent)-----	.06 1/3
Total-----	\$.47

The expenses for the wool and hides average about as follows for each 22 pounds:

Cartage to the railway station-----	\$.05
Railway transportation (270 miles)-----	.25
Expenses loading, unloading and insurance-	.01 2/3
Taxes for entering the market-----	.04
Commission to sellers(3 per cent)-----	.08 1/3
Total-----	\$.44

In addition, if the wool is not sold as soon as it is placed in the market, it is necessary to add 1 2/3 cents per 22 pounds per month for storage, or \$.009 per pound per year.

In the Buenos Aires sheep grazing region land belongs to private individuals. It is estimated that about half of the land used for pasture is occupied by owners and half is rented. Rent for land varies from \$1.60 to \$2.25 per acre. Contracts usually cover periods from three to five years. Since 1914 rent on the same land has advanced nearly \$1 per acre.

The production of sheep in the southern half of the Argentine Republic is destined to great expansion. The climate is favorable and there exist regions which, although of small carrying capacity, give excellent results for sheep and are not suitable for agriculture or cattle raising. These are for the most part public lands, the rent of which is moderate. In the province of Buenos Aires, however, sheep raising is being gradually crowded out by the cattle. This is due to the high rents and the fact that cattle and grain production is more profitable.

In regions to the south, comprising the territories of Neuquen, Rio Negro and Chubut, greater attention is given to the quality of the wool. Most of the sheep are high-grade Merinos which have been crossed with Romney Marsh rams and a few with Lincoln. Lincolns, however, have not given good results. In the territories of Santa Cruz and Tierra del Fuego, Romney Marsh predominate, and for the present it would not seem that they will change their methods in that region.

The different types of wool in the country are the following:

Province of Buenos Aires

South, West and North

Types: Merino
Fine cross
Medium cross
Coarse cross
Second shearing: Medium cross
" " Coarse "

Lamb: Medium cross
" Coarse "

Hog Raising

Argentina is a country of large farms or ranches, ranging generally from 500 to 50,000 acres. Hogs are raised on some of these large farms in very large numbers. It is the general practice to raise them in the open, seldom using barns or sheds. Hogs are grown in what is known as the corn and alfalfa belts. In both these sections alfalfa grows abundantly and is the principal green feed used in their production.

In Argentina hogs, as well as cattle and sheep, are raised in large numbers. On many ranches five to ten thousand are raised annually. They are allowed to graze on alfalfa and are driven by men on horseback much the same as cattle.

The bulk of the hogs are grown in the corn and alfalfa sections. In both these belts alfalfa grows abundantly and is the principal green feed used.

On most of the hog farms the alfalfa and corn fields are side by side and fenced with woven wire. During the breeding season the sows and boars are turned into these pastures, with generally not over 200 sows in a pasture, using a boar for each 20 to 25 sows. The principal breeding seasons are the same as in the United States, except that the Argentine farmer breeds a larger number of sows in May and June than he does in November and December. This is for the purpose of having the larger per cent of pigs farrow in the spring, September, October and November being spring months in Argentina.

The bred sows remain in these fields until the pigs are weaned. No corn is fed until a month or six weeks before farrowing, during which time the sows get a liberal ration of corn while grazing on alfalfa. A close watch is kept on the bred sows when close to farrowing time, and an estimate made of the number that may farrow within the next day or two. Small piles of straw placed in a secicircle are arranged for the sows about to farrow. They nest in these straw piles to farrow, with fairly good results.

Based on the number of sows put in the pastures to breed, the Argentine hog man weans from 2 to 4 pigs per litter.

After farrowing they get no feed of any kind except alfalfa for about fifteen days, when corn again becomes a part of the ration. Dry shelled corn is scattered on the ground.

Creeps, which make corn available at will, are provided for the pigs when they are about three weeks old. This corn is often fed soaked. Most of the corn grown in Argentina is a flint variety and is very hard. Consequently best results are obtained by soaking it before feeding to young pigs. Automatic waterers are provided in all pastures.

Generally the pigs wean themselves. After weaning they are fed a good growing ration of corn until they reach about one hundred pounds in weight, when a full corn ration is fed either in the alfalfa pastures or by hogging down corn in adjoining fields. This system is continued until they attain market weight.

Most of the hogs are sent to market at from nine to twelve months old weighing from 200 to 275 pounds.

The mild climate and long growing season, with alfalfa and corn fields adjoining, furnish the very best conditions for economical pork production. Strange as it may seem to many farmers in this country, hogs are raised in small pens without green feed over a large part of the corn and alfalfa section.

At the present time comparatively few farmers are raising hogs, but it is believed, on account of economical production, that large numbers of hogs will be raised in a few years, because many of those that are in the business are making very large profits.

Two things, cholera and foot and mouth disease, menace the swine industry, and have thus far prevented its making more rapid progress. Steps are now being taken, however, both to manufacture anti hog cholera serum at home and to import it from the United States.

Although many of the farmers who produce corn have not yet found a system that will insure a good yield every year, as soon as improved methods have been demonstrated to their satisfaction, it is believed that the output will greatly increase. The common system now in use is to plant in rows 18 inches apart and 4 or 5 inches apart in the row. The soil is so rich and water level so near the top of the ground that this system during years of abundant rainfall gives satisfactory yields. If a drought comes, however, at the time when the maximum amount of moisture is needed, the crop sometimes proves a total failure.

Argentina has in the past been a great corn-exporting country, but it is believed that more and more hogs will be produced and a much larger percentage of the corn crop marketed on the hoof in the future.

An increased number of swine will doubtless bring a greater demand for breeding animals, and the United States seems to be the logical place to get them.

The hogs offered at the time the yards at Buenos Aires were visited, were neither good nor uniform in quality. On August 17, 1920, receipts amounted to 2,102 head. In this number there was not a single full load that would be graded as good on any of our leading markets. There were good individuals in most of the loads, but taken as a whole, they showed little or no attempt to produce a uniform, easy-feeding animal. Most of them were black in color, some spotted and a few white. They represented a mixture of Berkshire, Yorkshire, Poland-China and Duroc - Jersey breeding.

The hogs were sorted before being sold. Quite a few pigs, thin in flesh, were sold as feeders. These feeders were selling at 8 cents to 10 cents per pound. Fat hogs brought about 12 cents on the same day. We were informed that stock hogs are neither vaccinated nor dipped before leaving the yards, which would make their purchase seem a rather hazardous undertaking.

Packer buyers were authority for the statement that most of the good quality hogs raised in Argentina do not go through the public stockyards but are bought direct from the producer.

There is no system of official docking of stags, piggy sows, or diseased animals such as we have. We were informed that about 8 per cent of the hogs killed were affected with tuberculosis.

There are several large packing plants in Buenos Aires and near-by large cities, which supply a ready market for cattle, sheep and hogs. All these plants are located some distance from the stockyards, most of them about 30 miles. This makes it necessary for the buyers to reload and ship all the stock they purchase, thus entailing considerable expense and loss of time. Only a small percentage of live stock, however, is consumed in Argentina, because the population of that country is small compared to the amount of meat produced. Most of the meat is exported to Europe, although some of it is sent to the United States each year.

Dairying

The dairy industry is growing, but the large number of beef breeding cows being milked in that country, together with the small population, has not been conducive to rapid development of specialized dairying. However, as the population increases, there will undoubtedly come a greater demand for dairy products and a corresponding increase in the demand for dairy cattle. In the

surrounding countries near the cities of Tandil, Buenos Aires, and Rosario, the dairy industry shows considerable development, with the Holstein breed occupying a position of prominence. In the past the export demand for butter and cheese has been a very important factor. With such an outlet for dairy products, together with a low production cost, dairying has proved to be a profitable business.

With the exception of foot and mouth disease, which generally occurs once each year and sometimes twice, there are few diseases and pests which trouble cattle in the central and southern sections of the country. This disease is, of course, particularly a menace to the dairy business, because it not only temporarily stops the milk flow entirely, but frequently reduces by at least one-third the total flow for that particular lactation period. This is obviously a serious matter, especially if the cow has just calved. Quite often the calf is lost and interference with the milk flow at this time frequently means a reduced flow for a long period of time. It is also true that quite often the udder is partly or wholly ruined. Despite all these difficulties, however, the cheap grain, mild climate, and long grazing seasons make the dairy business on the whole a profitable one.

Horse Industry

The horse industry in Argentina is in very much the same condition as in other countries. There is a large surplus of good, high-grade twelve to sixteen hundred pound mares and geldings, and we were told that such horses could be bought for \$40 to \$50 each. In that country, however, the farmer is using the maximum amount of horse power in order to save grain. Enough horses are kept to make possible changing teams twice a day. In other words, the horses are worked for about six hours then turned into the alfalfa field to pasture. They are never fed grain and worked throughout the day as in this country. In view of the low price of horses it does not seem probable that the demand for stallions from the United States will be very great during the next few years. At the Palermo Show, however, a few Percherons, Clydesdales, and Shires, ranging from plain to fairly good, sold from \$500 to \$1,000 apiece.

The Palermo Show, held at Buenos Aires in September of each year, serves as a good barometer of the export demand and the quality desired. During the sales which are conducted each day of the Show the demand for high-class animals appeared to be generally good while plain individuals usually sold very cheaply in comparison with the others. Of course at these sales, as at others,

an inferior individual occasionally brings a very high price. There were some phenomenal prices paid for the grand champions of each class, the Short-horn, Hereford, and Angus sold for \$40,000, \$34,545 and \$12,727 respectively. Average prices of the sales, however, were not as high as they had been at previous shows. Imported cattle from the United States and England, of special breeding with which the buyers were familiar, brought very good prices. It was reported, however, that quite a lot of medium quality stock had been imported which did not make the importers very much money.

The cattle exhibit was, indeed, a beautiful sight, because the entries were of superior quality and well fitted and groomed for the sale. Although quite a number of horses, sheep, hogs and poultry were exhibited the principal interest of the public and most of the exhibitors was in the cattle show. This was not surprising, however, because there were many more cattle on exhibition than any of the other kinds of live stock and there has always been a great interest in cattle production. Very large well-arranged barns were filled completely with cattle. In one class of Shorthorn bulls there were 1,800. In this class it was a very prolonged task of elimination in order to get the ten or fifteen best ones. The judging of the Shorthorn classes especially was watched with the keenest interest by large crowds of enthusiastic spectators, and the foreign judges from England and Scotland were highly praised for their efficient judgment.

The exposition grounds at Palermo are very beautiful and kept in perfect condition. The buildings are magnificently designed and well arranged around the judging rings. All of the judging is done in the open. It is doubtful if any country has more elaborate live-stock exhibition grounds than the one at Palermo.

Arrangements for handling hogs are by no means as complete as for cattle. The pens are uniform in size - about 3 feet 6 inches by 5 feet, which is entirely too small for the mature hogs shown in the United States. All of the hogs in the show must be catalogued in the official list before they can enter the grounds. They are penned in the barn in the order of their catalogue numbers. For example, all the aged Poland-China boars may be ranged along one aisle; next will come aged Berkshire boars; then aged Duroc - Jerseys; and so on throughout the list. Senior yearlings, junior yearlings, etc., will follow in order. A man having entries in several different classes may find his animals scattered throughout the barn. This arrangement is convenient for the visitor, but complicates matters very greatly for the ex-

hibitor. The Rural Society under whose management the Show is held will feed and care for all live stock sent for exhibition. In this connection, however, it would be well for foreign exhibitors to bear in mind that all feeding is done by peons who are usually not skilled in such work. To some extent the judging is conducted in much the same manner as at some of the hog shows in the United States, but the handling of the animals is very different. When a class is called the peons or laborers assigned to that section bring out all the animals of a certain class. These men as a class know very little about handling hogs. They attempt to drive them into the ring without the use of a hurdle, using a whip very vigorously most of the time. The result is that many of the young animals frequently get away from them. They are run down and sometimes roped and frequently are carried into the ring. In the boar classes one or more vigorous fights often occur while the judging is going on. No pens are provided for showing, the animals simply being driven into the open arena. In the 1920 show most of the prize winners were extremely small animals belonging to what is commonly known as the "hot blood" type. In the Poland-China and Berkshire classes the judges invariably disqualified any animals showing any white except the six white points. Apparently, however, low backs, poor feet or legs, etc., were disregarded. Excessive fat seemed to be desired. A rule rigidly enforced at the Palermo show and one that worked to the decided disadvantage of the animals exhibited, prohibited any animal being taken out of the pen or stall during the time of the show without special permission. It was reported that such permission was usually hard to obtain. As a result of this ruling the stock was confined in small pens or stalls for at least ten days without any exercise whatever except being driven into the ring to be shown. Practically all the animals entered at the Palermo show are sold at auction, all awards being made before the official opening of the show.

Sales of almost all classes of live stock commence on the opening day. Hogs are generally sold by number in the order in which these appear in the catalog. They are sold in the pen in which they are exhibited and not allowed to be driven out into the arena or sale ring. All the hogs on exhibition are consigned to some auction firm and representatives of these various firms are on hand to sell the animals consigned to them when their numbers are called. At the 1920 show 489 hogs were exhibited, apportioned by breeds and sexes as follows:

	Boars	Sows	Total
Berkshires-----	128	131	259
Middle White Yorks-----	14	14	28
Large Blacks-----	8	10	18
Durocs-----	51	41	92
Polands-----	29	24	53
Tamworths-----	8	4	12
Hampshires-----	6	2	8
Spotted Poland-China-----	2	4	6
Chester White-----	5	8	13
Total-----	251	238	489

About three days were consumed in selling them. A selling commission of 6 per cent is paid by the purchaser. The auction firm selling the stock gets half of this commission and the other half goes to the Rural Society. The same general plan is followed in selling cattle and sheep. Cattle sales often continue a week or 10 days after the closing date of the show.

It seemed probable that during the early part of the show a limited number of very good individuals of any of the beef breeds could have been sold at satisfactory prices, but if the attempt is made after the shows are over or too early in the season, or if inferior animals are placed on the market, the result would likely be a failure.

Argentine stockmen make most of their purchases of breeding stock during August and September. Practically all of these breeding animals are sold at public auction in some of the various sale barns or on the Palermo show grounds. The live-stock sale barns are located in the center of the retail business section of the city of Buenos Aires.

One very satisfactory feature of this sales system is that the auction firm assumes all the responsibility for making collections for animals sold. If for any reason the buyer can not or does not pay for an animal which he has purchased, the seller loses nothing. The total amount of the sales is paid to the seller by the auction firm.

Exports of live stock from the United States should be made in time to arrive at Buenos Aires and go through quarantine before the sale season opens. The quarantine period for cattle is 30 days and 15 days for hogs and sheep.

We believe that some high-class bulls of the Shorthorn, Hereford and Angus breeds would bring good prices. Shorthorns are very much more in demand than other breeds. Inferior animals are not wanted and should not be sent. A smaller number of selected females should sell well. They should by all means be in prime condition. Holsteins are the principal dairy breed used. A few high-class bulls and cows would probably meet with ready sale.

Berkshires is the breed of hogs most used in Argentina, yet judging by the sale of the view herd sent down by the National Swine Growers' Association in 1920 Poland-Chinas and Duroc-Jerseys are more in demand. The Argentine hog man wants a big type hog although, he is not now raising them. Good, big, well-fitted mature boars and sows seemed to sell well. The sows should be bred and safe in pig. Under no circumstances should a doubtful breeder be shipped. We believe that Poland-Chinas, Duroc-Jerseys and Berkshires would be the breeds for which there would be the best demand.

All hogs should be immunized to cholera and tested for tuberculosis. The tuberculin test is not required, but the shipper should take this precaution for his own protection, as all animals are tested by the Argentine Government officials before they are released from quarantine.

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